Ordnance Survey

An OS data guide

Make confident decisions in insurance with precise location data by Ordnance Survey

os.uk/financialservices

Contents

Learn how insurance firms are using location data to overcome growing uncertainty and win in the insurance market.

And get insights into how you can put it to work to reduce risk, meet sustainability targets, boost customer experience, and make decisions with confidence.

Let's get into it.

In case of the unexpected. It's the insurance market's very reason to be.

But the unexpected is fast becoming the norm, as secondary perils progress at extreme rates – often presenting a larger loss potential than primary perils – as the rise of adverse weather events changes risk profiles. At the same time, sustainability pressures, both direct and indirect, are putting insurers under increased scrutiny.

£596 million

The cost of adverse weather in homeowner claims from January to September 2025 21% higher than the previous year[1]

To take on these challenges, insurers must work with multiple, often fragmented data sources. But the visibility required to reduce risk and protect the customer experience depends on precise, joined-up data.

This guide takes a close look at the critical role of Ordnance Survey (OS) location data in helping insurers overcome evolving challenges. Specifically, it will guide you through how others in your sector are putting the data to work to mitigate risk, with a focus on perils modelling, risk accumulation, and onboarding.

Next we take a look at why OS is the national mapping agency for Great Britain and a leading geospatial data company.

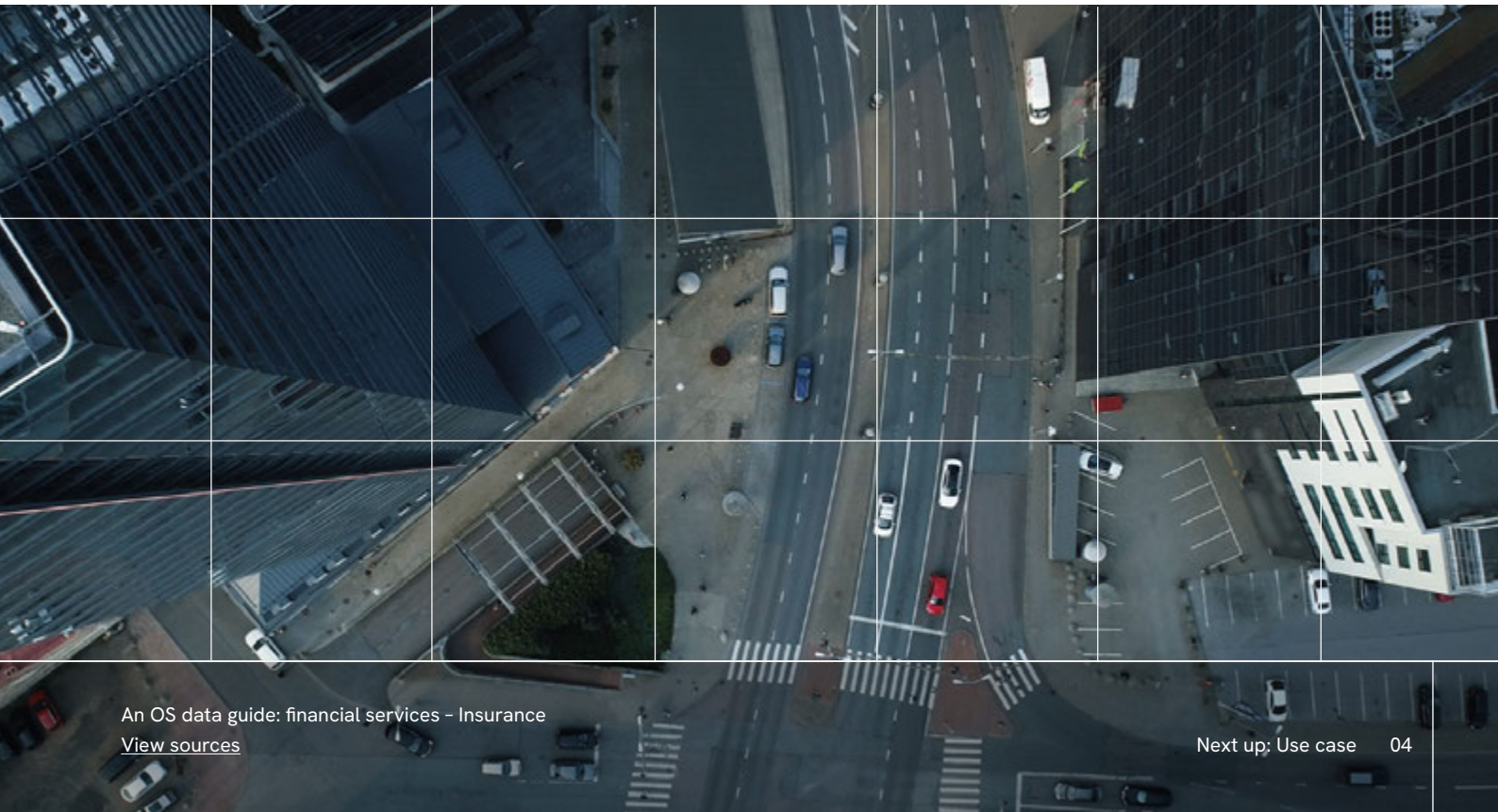
OS data: unrivalled detail and accuracy

As property and motor underwriting shift from postcode, to street, to individual address level, there is greater scope for insurers to select risks against subsets of information and set criteria accordingly, rather than removing entire areas or regions. This granular level of location data is where OS comes in.

With location data from OS, you get the accumulated benefit of over 200 years in collecting and providing national map data, making us Britain's leading provider of map data, trusted by governments and businesses nationwide.

We collect the data – boundary, address, building, water networks, roads, and more – at the source. This data is refined and quality checked before it's distributed through a network of partners; these partners create additional solutions and services in response to your bespoke needs.

Through this approach, our customers get an all-important single, centralised source of truth for location insights. So you can fill in the blanks and bring confidence to every decision.



USE CASE

Location data for risk modelling and climate change exposure

To understand risk, you need a thorough, granular view of the surroundings. For example, to understand flood risk, you need the terrain, watercourses, land coverage, and buildings data.

To understand wildfire risk, you also need terrain, land coverage, and buildings data, but supplemented with insights into the surrounding vegetation, seasonal conditions, and weather patterns in the area. For motor theft, you need postcode insights to match with crime statistics, together with streetlight locations, buildings, roads, and access networks.

By bringing this level of accurate spatial data into risk modelling, you increase the probability of capturing the relevant data points to measure risk. This also includes the spatial proximity of objects next to or near an asset, or the additional attributes of a building.

When this data is integrated and applied across your other systems, it can result in a reduction in your overall portfolio risk.

Flood risk

Flood risk is determined using a third-party flood model, combined with OS Address, OS Buildings and OS Land Use data. If any part of the address, even just the garden or driveway, falls within the flood risk area, it will be impacted. This is the most accurate way for insurance companies to determine individual property risk.

AVIVA

CASE STUDY

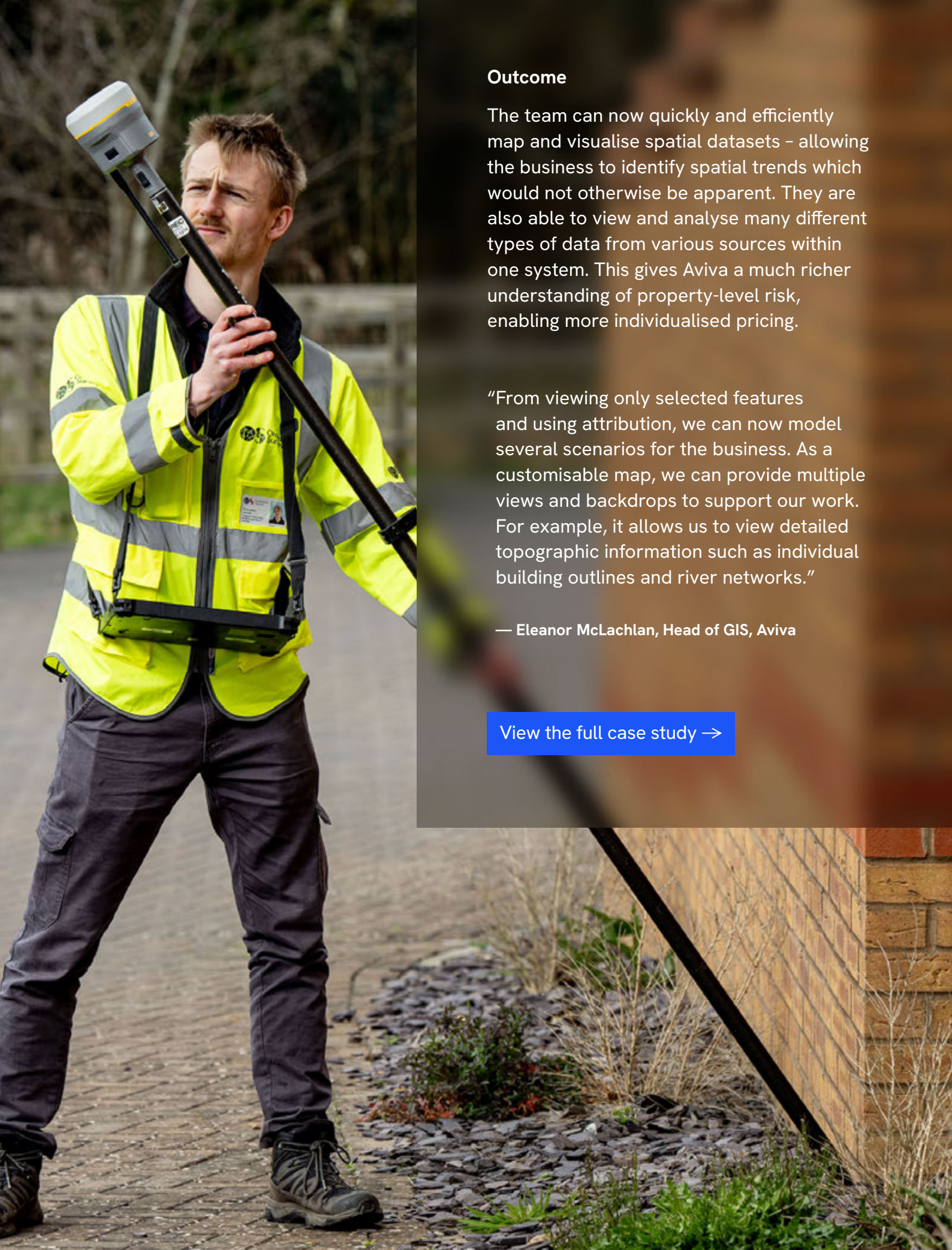
How Aviva evaluates risk with confidence with OS data

Challenge

Aviva provides cover for customers who previously found it hard to get property insurance; this is because the firm has a long-standing investment in geo-technologies. But they could see these technologies evolving, and Aviva wanted to take advantage of the greater level of granularity possible with more advanced mapping solutions.

Solution

Historically, Aviva's GIS team used various OS raster maps. But, by switching to open source raster data and upgrading to vector mapping, Aviva can now visualise individual addresses and important objects – from ponds to substations – without the need for a postal address.



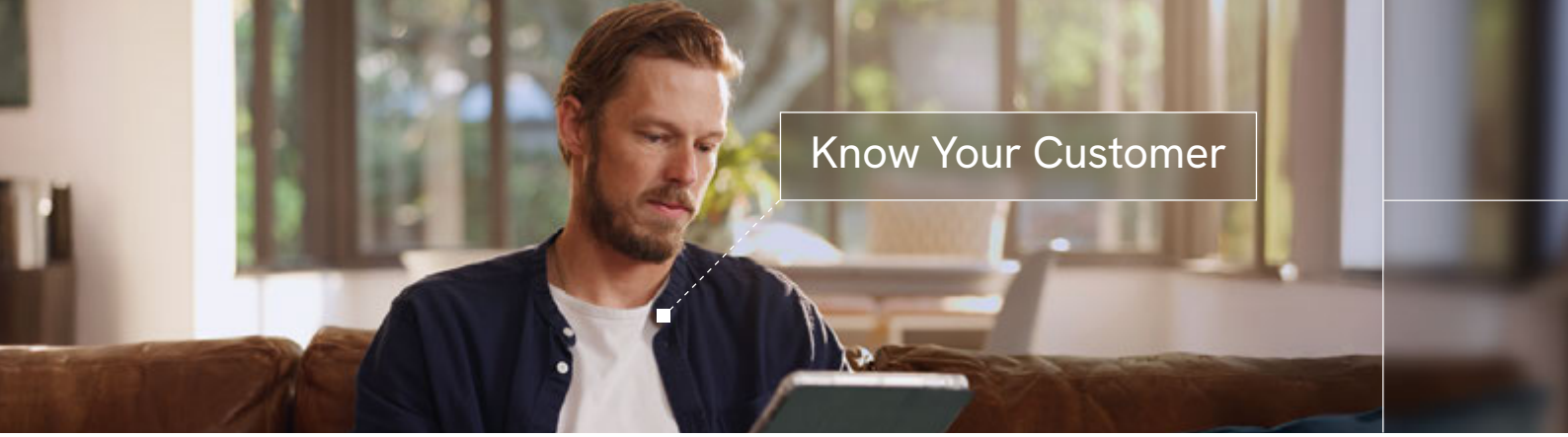
Outcome

The team can now quickly and efficiently map and visualise spatial datasets – allowing the business to identify spatial trends which would not otherwise be apparent. They are also able to view and analyse many different types of data from various sources within one system. This gives Aviva a much richer understanding of property-level risk, enabling more individualised pricing.

"From viewing only selected features and using attribution, we can now model several scenarios for the business. As a customisable map, we can provide multiple views and backdrops to support our work. For example, it allows us to view detailed topographic information such as individual building outlines and river networks."

— Eleanor McLachlan, Head of GIS, Aviva

View the full case study →



USE CASE

Location data for onboarding

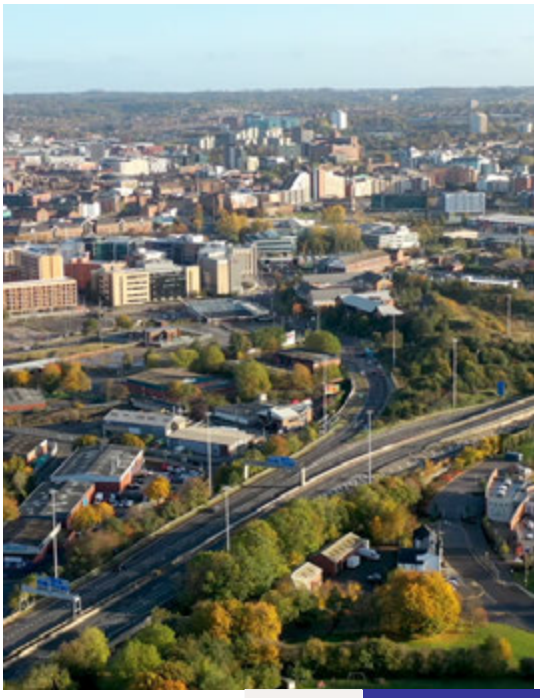
Traditionally, insurance applications have relied on customers' 'best-guess' answers and postcode-level data. This leads to gaps in information that can expose insurers to risk, and creates a frustrating process for customers, as they often don't have all the information they need to answer the questions.

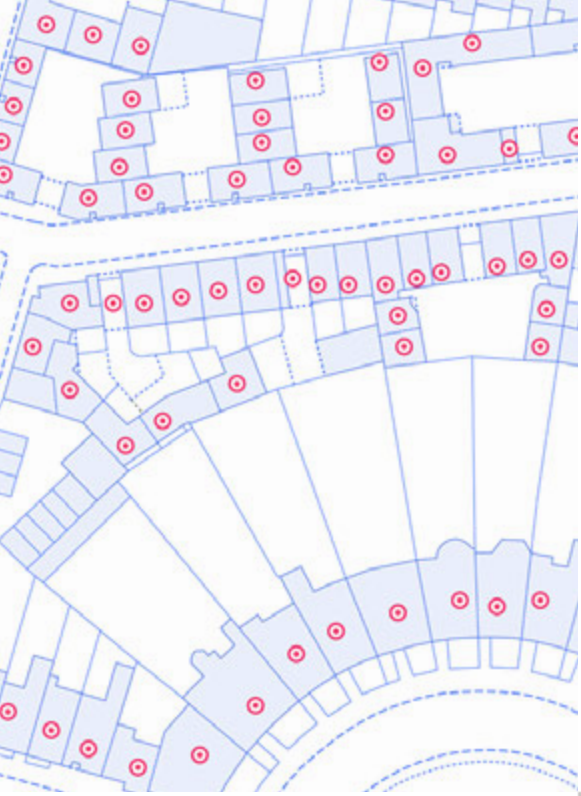
Here's how OS data can fill in the blanks, bring confidence to insurers, and make onboarding a fast, seamless experience.

Enhance Know Your Customer and reduce fraud

Location data is crucial to helping insurers improve Know Your Customer (KYC) processes. It helps prevent fraud by identifying inconsistencies, while also supporting the customer experience. And with the annual Fraudscape report for 2025 showing that 421,000 cases of fraud were filed to the National Fraud Database in 2024 – the highest number on record – this is more critical now than ever[2].

UPRN	100120021866
Full address	19 Oakham Drive, Orton Courteville, Peterborough, PE3 5GG
Construction material	Brick or Block or Stone
Roof material	Tile or Stone or Slate
Roof aspect	South
Roof shape	Pitched
Solar panel presence	No
Building age	1870-1918
Building description	Semi-detached
Basement	Basement present





Pre-filled quotation forms

With OS data, when your customer submits their address on a quotation form, additional pre-filled form fields can be displayed based on that address, enriching data collection. I.e. *Is the property in a block of flats? Does it have off-street parking? What kind of roof does it have? Is the home a multiple occupancy?* So, your customer only needs to complete the relevant fields, reducing their time spent filling forms, improving their experience, and avoiding potential abandoned quotes – without cutting out form fields and potentially missing vital information.

With buildings and address data from OS, insurers can access detailed data on over 40 million properties across Great Britain. And with a Unique Property Reference Number (UPRN) allocated to each property – right down to a single flat in a block – you can avoid duplication and confusion and get the correct information first time. It's also easy to link OS data to your own or other external data sources, building a more complete risk profile.

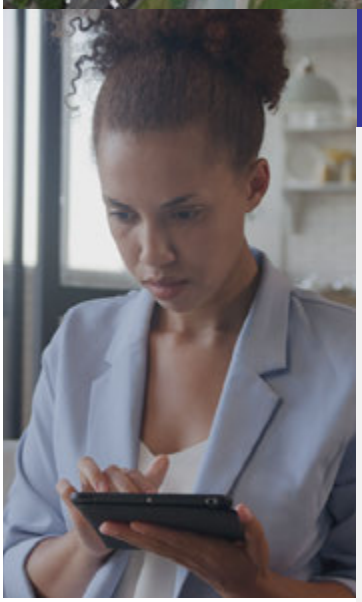
This deeper insight into the customer, their property and assets, improves onboarding and also makes it possible to deliver much more personalised marketing experiences.

USE CASE

Location data for risk accumulation

Location data gives insurers a clear, granular view of where exposures are concentrated rather than relying on broad regional assumptions. By mapping policies to precise geographic locations, insurers can identify clusters of risk, particularly in hazard-prone areas, and monitor how these exposures stack up across their portfolio. This way, you can set limits, diversify geographically, and adjust pricing with confidence.

For example, a commercial building insurer might have a heavy concentration of insured properties in one industrial park. This industrial park might also be in a high-risk area for flooding – a risk that's growing each year due to climate change. With granular location data, insurers get these insights and can act before it's too late.



HISCOX

CASE STUDY

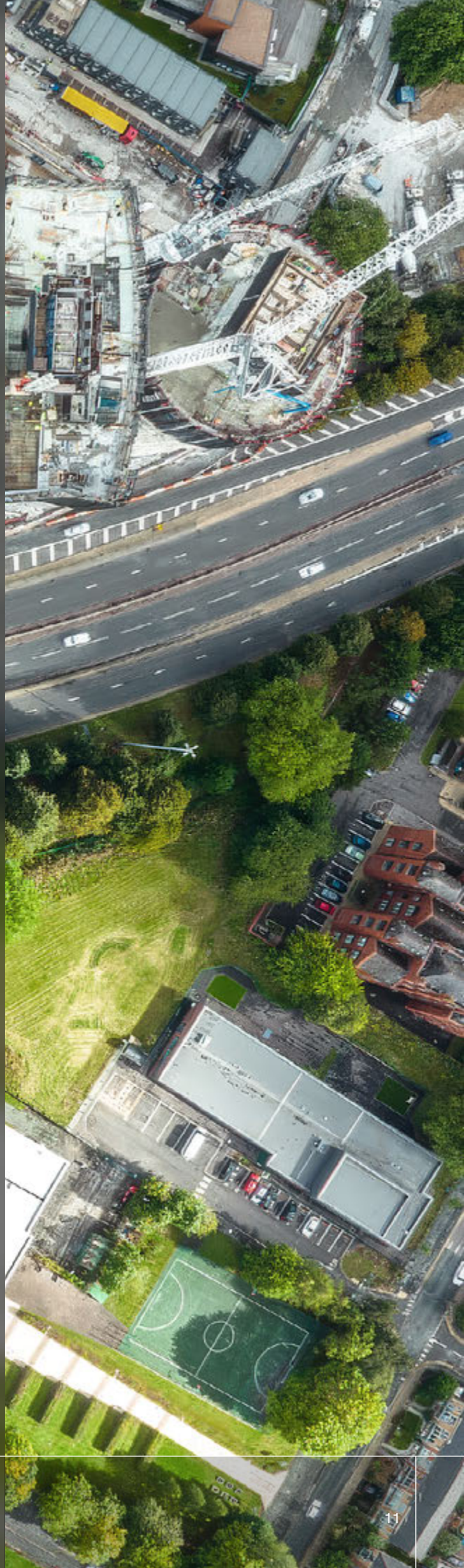
How Hiscox managed risk accumulation with OS data

Challenge

UK Insurer Hiscox offers tailored policies to affluent customers, but the firm faced an issue with so-called ‘spiky exposures’. This meant assets were too close, leading to the potential for substantial losses in the event of a major incident, such as flooding, windstorms, or fire. To mitigate this risk, Hiscox needed precise location data to accurately locate their associated properties and manage their exposure.

Solution

With OS data, Hiscox could leverage geocoding, which involved accurately locating properties within a given area, to better understand the risk profile. The OS data used includes address information, including the Unique Property Reference Number (UPRN), supplemented with detailed property data including building heights, footprints, and land parcel boundaries, allowing Hiscox to better assess the risk of properties.



Outcome

Thanks to OS data, Hiscox can better manage risk, set aside reserves, reduce unnecessary capital allocation – and adjust premiums accordingly – which means greater cost savings for its customers. Improved desktop analysis also reduces the need for on-site inspections while enhancing the understanding of a site. The high quality of OS data enables Hiscox to make decisions with confidence, improving risk and customer experience.

View the full case study →

The outlook for insurance and the growing role of location data

Spatial data, powered through AI and automation, is opening the gates to highly personalised and bespoke insurance products. While premiums and cover will continue to be based on an individual's or asset's risk profile, it can extend to include more factors and real-time behaviours (such as driving habits for motor insurance, home security for property cover, and utility usage for commercial and homeowner insurance). With OS data, insurers can embed UPRN into their systems and solutions to connect other information sources and achieve a much more bespoke and competitive level of underwriting.

A growing need for fraud detection

Customer expectations have shifted, with most expecting fully digital interactions – from purchasing policies to claims notifications. Fraud detection must evolve, with trusted data essential to validate responses and highlight inconsistencies. Insurers that are equipped with OS data benefit from stronger Know Your Customer processes, putting them a stride ahead in fraud detection.

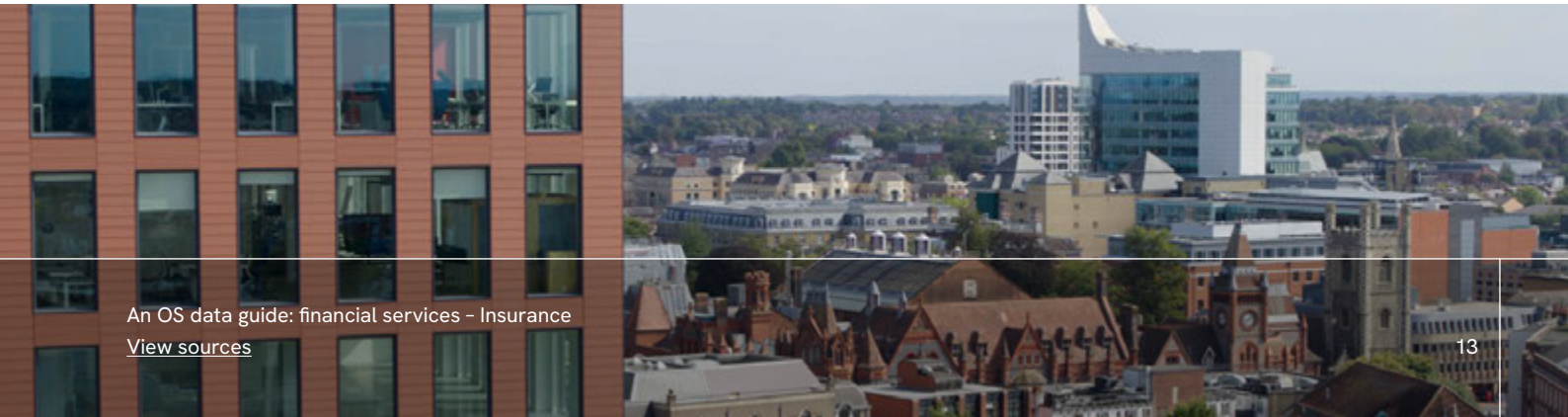
Increased scrutiny around regulation

This growing use of technology and spatial data will put greater focus on regulation and data privacy. Regulators will be looking for clearer policies on data usage, sharing, and protection – while ensuring AI is used responsibly, transparently, and without bias – with strict guidance on the use of 'black box' technology. With OS data, insurers have accurate data that's centralised, clearly traceable, and explainable from the source.

Discover what's possible with OS data

As the world becomes more digital, AI takes hold, and customer expectations and regulatory scrutiny continue to grow, the granularity and control you get with OS data is critical.

Learn what's possible →



OS data product glossary

OS data collections for insurance

Our data collections contain analytical geographical data, grouped by themes, for integration into existing solutions. In some cases, a basemap will be needed for spatial context or visualisation.

OS GB Address **and** OS Islands Address | containing 41 million full addresses across the UK, combining both UPRN and Royal Mail Postcode Address File (PAF) – giving you both datasets for just one licence fee instead of two. Augment address holdings with pre-build and historic addresses and improve your understanding of the address with four levels of classification.

OS Land Features | depicting land cover information, from the presence of tennis courts to residential gardens and construction sites. It also details natural land, i.e. heath, marshland, mixed trees.

OS Building Features | Over 30 data points for millions of buildings across Great Britain. Providing information on the building itself, with building attribution data including data on the roof (roof shape, green roof or solar panel presence etc), building height, number of floors, connectivity to other buildings, access points, and basement presence.

OS Land Use Features | detailing how the land is used, its purpose, and access points for public buildings. This includes everything from schools and universities to caravan parks.

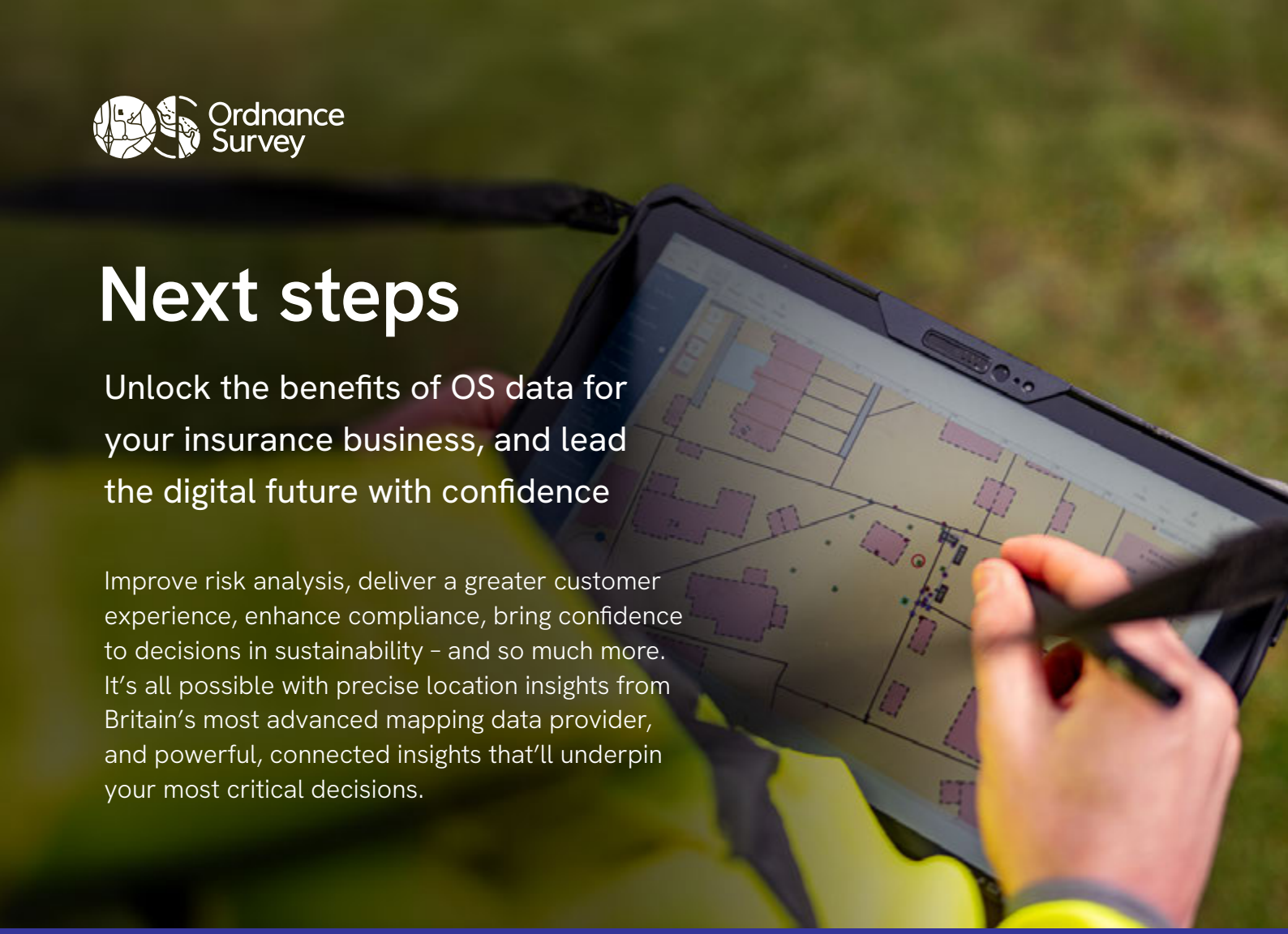
OS Structure Features | providing detail on structures that are manmade but not buildings, including bridges and clock towers, with information on the height and boundary (including natural boundaries) of such structures.

OS Water Features **and** OS Water Network | detailing rivers, canals, streams and more, both natural and manmade, including data on tidal zones, flow direction, drains and more.

OS Transport Features, OS Transport Network **and** OS Routing and Management Information | a definitive collection of data on Great Britain's roads, railways, tracks and paths.

1 https://www.abi.org.uk/news/news-articles/2025/11/year-to-date-property-insurance-payouts-hit-record-4.6-billion/

2 https://www.cifas.org.uk/newsroom/fraudscape-2025-record-fraud-levels



Next steps

Unlock the benefits of OS data for your insurance business, and lead the digital future with confidence

Improve risk analysis, deliver a greater customer experience, enhance compliance, bring confidence to decisions in sustainability – and so much more. It's all possible with precise location insights from Britain's most advanced mapping data provider, and powerful, connected insights that'll underpin your most critical decisions.

Get to work with OS data in three simple steps:

Step 1 | Book an initial consultation to discuss your unique challenges and goals, and to qualify the data products you need.

Step 2 | Dive deeper with one of our experts to explore the art of the possible to make sure you get the very best from your data.

Step 3 | From our network of partners, we'll help you find the right one to deliver on your requirements and work with you through integration and beyond.

Click here to start your enquiry →

Try our products and get a taste of what's possible with our free sample data. →

Find out more at os.uk/financialservices →